

Appln. S.N. 10/052,239

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Amdt. dated March 30, 2006

Reply to Office Action of January 24, 2006

Docket No. UMJ-160-A (UM 1937)

In the Claims:

1 - 8. (Cancelled)

9. (Previously Presented) A material having a catalytic surface that has immobilized, or available at the surface thereof, a catalytic agent having nitrite reductase or nitrosothiol reductase activity, which converts nitrite/nitrate or nitrosothiols to nitric oxide when the catalytic surface is in contact with blood, wherein the catalytic agent is a Cu(II) metal ion ligand complex, and the ligand is selected from the group consisting of dibenzo[e,k]-2,3,8,9-tetraphenyl-1,4,7,10-tetraaza-cyclododeca-1,3,7,9-tetraene; dibenzo[e,k]-2,3,8,9-tetramethyl-1,4,7,10-tetraaza-cyclododeca-1,3,7,9-tetraene; and dibenzo[e,k]-2,3,8,9-tetraethyl-1,4,7,10-tetraaza-cyclododeca-1,3,7,9-tetraene.

10. (Currently amended) The material of claim 9 wherein the material is at least one of a polymer, a metal, an alloy of the metal, or graphite.

11. (Original) The material of claim 10 wherein the material is a polymer.

12. (Original) The material of claim 11 wherein the polymer is selected from the group of poly(vinyl chloride), polyurethane, and silicone rubber.

13. (Previously Presented) A material having a catalytic surface that has immobilized, or available at the surface thereof, a catalytic agent which is a metal ion ligand complex having nitrite reductase or nitrosothiol reductase activity, which converts nitrite/nitrate or nitrosothiols to nitric oxide when the catalytic surface is in contact with blood, wherein the material is a polymer, and the polymer includes lipophilic salts of nitrite/nitrate or nitrosothiols within the polymer to create a reservoir of nitrite/nitrate or nitrosothiol that can continuously leak to the catalytic surface.

14. (Previously presented) The material of claim 13 wherein the lipophilic salt of nitrite/nitrate is tridodecylmethylammonium nitrite (TDMA<sup>+</sup> NO<sub>2</sub>/NO<sub>3</sub><sup>-</sup>).

15. (Original) The material of claim 10 wherein the material is a metal.

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16. (Original) The material of claim 15 wherein the metal is selected from the group consisting of stainless steel, nickel, titanium, aluminum, copper, gold, silver, platinum and alloys or combinations thereof.

17. (Previously Presented) The material of claim 15 wherein the catalytic agent is covalently attached to the surface of the metal material.

18. (Previously Presented) The material of claim 15 wherein the surface of the metal material is coated with a polymeric film having the catalytic agent incorporated into the film or attached to a surface of the polymeric film.

19. (Previously Presented) A material having a catalytic surface that has immobilized, or available at the surface thereof, a catalytic agent which is a metal ion ligand complex having nitrite reductase or nitrosothiol reductase activity, which converts nitrite/nitrate or nitrosothiols to nitric oxide when the catalytic surface is in contact with blood, wherein the material is a metal having the surface coated with a polymeric film having the catalytic agent incorporated into the film or attached to a surface of the polymeric film, and wherein the polymeric film further includes lipophilic salts of nitrite/nitrate or nitrosothiols within the polymer film to create a reservoir of nitrite/nitrate or nitrosothiol that can continuously leak to the catalytic surface.

20 - 33. (Cancelled)

34. (Previously Presented) A medical device comprising:  
a material having immobilized, or available at a surface thereof, a Cu(II) metal ion ligand complex having nitrite reductase or nitrosothiol reductase activity, which converts nitrite/nitrate or nitrosothiols to nitric oxide when in contact with blood, wherein the ligand of the Cu(II) metal ion ligand complex is selected from the group consisting of dibenzo[e,k]-2,3,8,9-tetraphenyl-1,4,7,10-tetraaza-cyclododeca-1,3,7,9-tetraene; dibenzo[e,k]-2,3,8,9-tetramethyl-1,4,7,10-tetraaza-cyclododeca-1,3,7,9-tetraene; and dibenzo[e,k]-2,3,8,9-tetraethyl-1,4,7,10-tetraaza-cyclododeca-1,3,7,9-tetraene.

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35. (Currently Amended) ~~The A material of claim 6~~ having available at a surface thereof, a catalytic agent having nitrite reductase or nitrosothiol reductase activity, the catalytic agent including a wherein the ligand is selected from the group consisting of dibenzo[e,k]-2,3,8,9-tetraphenyl-1,4,7,10-tetraaza-cyclododeca-1,3,7,9-tetraene; dibenzo[e,k]-2,3,8,9-tetramethyl-1,4,7,10-tetraaza-cyclododeca-1,3,7,9-tetraene; dibenzo[e,k]-2,3,8,9-tetraethyl-1,4,7,10-tetraaza-cyclododeca-1,3,7,9-tetraene, and salts thereof.

36. (Currently Amended) The material of claim 11 ~~35, further comprising a wherein the polymer including~~ includes lipophilic salts of nitrite/nitrate or nitrosothiols.

37 - 42. (Cancelled)